ABSTRACT

A practical method of manufacturing, assembling, and constructing a single silo or building or a cluster of polygonal storage silos using a column comprising horizontally-arrayed structural column panels. Column panels within a top horizontal array vertically aligning with column panels of a next lower horizontal array such that no discernible gap exists between top and bottom edges of column panels within the column. Seams, where top and bottom edges of column panels meet, preferably occur in different horizontal planes from each other throughout the column, thereby creating a stagger of column components in relationship to each other. Multiple layers of column components with the same, similar, or different configurations can be added to preferably cover seams of underlying column components to enhance structural integrity. A structure built with these columns can be constructed using a cost-effective and relatively safe method of jack-lifting. In addition, three or more of these structural columns can be connected together with wall panels or beams to fashion a polygonal compartment or multiple polygonal compartments, to serve as structural support for heavy loads, as a process tower for supporting equipment, a multi-story building for human occupancy (such as an apartment complex), or as bulk storage silo(s). The column can join standard and customized beams and wall panels. The column can extend above a structure to support a tower or another level, or it can extend below to serve as a support column for the entire structure. Columns can be attached to wall panels of round structures, to serve as stiffeners, or to the sides of polygonal structures, to serve as side-wall supports.